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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,668	12/29/2003	Leila Song	5017	1567
7590 The Law Office of Stuart D. Frenkel, P.C. Suite 330 3975 University Drive Fairfax, VA 22030			EXAMINER AHMED, HASAN SYED	
			ART UNIT 1618	PAPER NUMBER
			MAIL DATE 01/11/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/747,668	SONG ET AL.
	Examiner Hasan S. Ahmed	Art Unit 1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 October 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

Receipt is acknowledged of applicants' response, which was filed on 11 October 2007.

\* \* \* \* \*

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 4 remain rejected under 35 U.S.C. 102(b) as being anticipated by JP 51149211 A ("Saiga").

Saiga discloses a method of improving odor from natural sources (see abstract) comprising:

- the complex metal hydride, e.g. borohydride, of instant claim 1 (see abstract);  
and
- the borohydride of instant claim 4 (see abstract).

The Saiga reference discloses amines as the source of odor (see abstract), not the fish scales of instant claim 1, or the guanine of instant claim 2. However, amines are inherently the source of odor in guanines and fish scales (see instant specification, page 2, lines 17-19).

\* \* \* \* \*

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8, 10, and 14-17 remain rejected under 35 U.S.C. 103(a) as being unpatentable over JP 51149211 A ("Saiga") in view of JP 2003088337 A ("Hiroshi").

Saiga teaches a method of improving odor from natural sources (see above).

Saiga differs from the instant application in that it does not teach the weak acid of instant claims 5, 7, 8, and 14-17. However, the use of weak organic acids to reduce the odor of fish scale products was known in the art before the instant application was filed, as taught by Hiroshi (see paragraph 0011). Although Hiroshi does not teach the acetic acid of instant claims 8 and 17, citric acid and phosphoric acid (see paragraph 0011) are deemed to be functional equivalents of acetic acid, thus burden shifts to applicant to show an unexpected result with the use of acetic acid in lieu of the disclosed organic acids.

The Saiga reference also differs from the instant application in that it does not teach the fish scale derived paste of instant claims 3, 14, and 15. However, Hiroshi forms a fish scale derived paste by mixing acidic water with ground fish scales (see paragraphs 0015 and 0016).

Hiroshi explains that adding weak organic acids to fish scale derived products sharply reduces the smell of fish scales (see, e.g., paragraph 0048).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose a method of reducing the odor of fish scale derived products using a complex metal hydride and a weak acid, as taught by Saiga in view of

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Hiroshi. One of ordinary skill in the art at the time the invention was made would have been motivated to use such a process because it is effective in reducing the odor of fish scale derived products, as explained by Hiroshi.

\*

2. Claims 1, 9, and 11-13 remain rejected under 35 U.S.C. 103(a) as being unpatentable over JP 51149211 A ("Saiga") in view of JP 2003088337 A ("Hiroshi").

Saiga teaches a method of improving odor from natural sources and Hiroshi teaches a method of reducing the odor of fish scale derived products using weak organic acids (see above).

While the prior art does not explicitly teach all the instant claimed percentages, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine suitable percentages through routine or manipulative experimentation to obtain the best possible results, as these are variable parameters attainable within the art.

Moreover, generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456; 105 USPQ 233, 235 (CCPA 1955). Applicants have not demonstrated any unexpected or unusual results, which accrue from the instant percentage ranges.

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3. Claims 1 and 18-20 remain rejected under 35 U.S.C. 103(a) as being unpatentable over JP 51149211 A ("Saiga") in view of JP 2003088337 A ("Hiroshi"), further in view of U.S. Patent No. 4,486,334 ("Horiuchi").

Saiga teaches a method of improving odor from natural sources and Hiroshi teaches a method of reducing the odor of fish scale derived products using weak organic acids (see above).

Saiga and Hiroshi differ from the instant application in that they do not teach a cosmetic formulation. However, fish scale derived cosmetic formulations were known in the art before the instant application was filed, as explained by Horiuchi (see col. 1, lines 11-31).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose a cosmetic formulation derived from fish scales, as taught by Horiuchi. One of ordinary skill in the art at the time the invention was made would have been motivated to make such a formulation because it improves attractiveness of the cosmetic formulation and increases its commercial value, as explained by Horiuchi (see col. 1, lines 14-16).

\* \* \* \* \*

#### ***Response to Arguments***

Applicant's arguments filed on 11 October 2007 have been fully considered but they are not persuasive.

35 USC 102

1. Applicants argue that the 35 USC 102 rejection is obviated because Saiga does not teach the fish scales of instant claim 1. See remarks, page 2, third paragraph.

At the outset, it should be noted that claim 1, the only independent claim of the instant application, is very broad in scope, as currently drafted. No mention is made of sodium borohydride; no mention is made of a weak acid.

Examiner respectfully submits that the Saiga reference reads on instant claims 1, 2, and 4, as they are currently drafted. The recitation "fish scales" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In this case, applicants are claiming a process for the deodorization of pigment derived from fish scales. Applicants explain at page 2, lines 17-19 of the instant specification that amines are the source of the unpleasant odor in fish scales which applicants intend to target. The Saiga reference also targets amines in order to neutralize odor produced by natural fats and oils using the same compound as that of claims 1 and 4, i.e. a complex metal hydride, such as an alkali metal salt of borohydride (see page 2, Claim(s) of the FLS, Inc. translation, attached). Saiga agrees with applicants that amines are the source of odor in natural fats and oils (see page 3, last

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paragraph the FLS, Inc. translation, attached). Thus, Saiga uses the same compound (borohydride) as the instant application to react with the same target (amine) as the instant application to effect the same result (deodorization) as the instant application. As such, Saiga anticipates instant claims 1, 2, and 4, as claimed.

\*

2. Applicants argue that the instant application is distinguished from Saiga because, "...Saiga discloses reducing amines obtained from natural fats and oils, which are liquid materials and not the pigment of the claimed invention, which pigment would be a solid material." See remarks, page 2, third paragraph.

Examiner respectfully submits that this statement contradicts the instant disclosure (see, e.g., instant claim 3), which describes the pigment as paste comprising pigment and water.

\* \* \*

35 USC 103

1. Applicants argue that the Saiga reference does not teach deodorizing a pigment derived from fish scales. See remarks, page 3, last paragraph.

Please see the response to arguments for the 35 USC 102 rejection, above.

\*

2. Applicants argue that off-gassing, "...appears to be needed to provide successful odor reduction." See remarks, page 4, top paragraph.

Examiner respectfully submits that applicants provide no evidence in the disclosure that off-gassing results in odor reduction.

Furthermore, examiner respectfully submits that both Saiga and Hiroshi provide solutions to the same problem the instant application addresses, in the same field of endeavor of the instant application, i.e. odor reduction by targeting amines from natural sources. Saiga addresses the problem by using a complex metal hydride. Hiroshi addresses the problem by using a weak acid. Thus, examiner respectfully submits that combining the two techniques, as applicants have done, would have been obvious to a person of ordinary skill in the art at the time the instant application was filed. Off-gassing is merely an inherent reaction product of combining borohydride with a weak acid.

\*

3. Applicants argue that, “[t]he patent does not otherwise suggest extracting any crystalline pigment from the dissolved fish scales.” See remarks, page 4, first full-paragraph.

It is noted that the feature upon which applicant relies (i.e., extraction of crystalline pigment from dissolved fish scales) is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

\*

4. Applicants argue that the phosphoric acid of Hiroshi is a very strong mineral acid while the instant application uses weak acids. See remarks, page 4, first full-paragraph.

Examiner respectfully submits that Hiroshi discloses the same weak acids (see paragraph 0019 of the FLS, Inc. translation, attached) as the instant application (see paragraph 0027), i.e. citric acid, lactic acid, and maleic acid.

\*

5. Applicants argue that, “[t]he use of an acid to dissolve fish scales in the secondary reference is not all [sic] applicable to the presently claimed process where a weak acid is added to improve off-gassing, not dissolve the crystals derived from the fish scales...In view of the fact that both the primary and secondary references are directed to deodorizing a liquid and not to deodorizing a pigment derived from fish scales, the combination of references cannot remotely suggest or render obvious the claimed invention.” See paragraph bridging pages 4 and 5.

Examiner respectfully submits that both Saiga and Hiroshi provide solutions to the same problem the instant application addresses, in the same field of endeavor of the instant application, i.e. odor reduction by targeting amines from natural sources. Saiga addresses the problem by using a complex metal hydride. Hiroshi addresses the problem by using a weak acid. Thus, examiner respectfully submits that combining the two techniques, as applicants have done, would have been obvious to a person of ordinary skill in the art at the time the instant application was filed. Off-gassing is merely an inherent reaction product of combining borohydride with a weak acid.

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The arguments at page 5, first full-paragraph, until page 7 repeat the preceding arguments; all have been addressed above.

\* \* \* \* \*

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

★

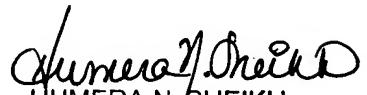
***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hasan S. Ahmed whose telephone number is 571-272-4792. The examiner can normally be reached on 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Woodward can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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PRIMARY EXAMINER